CLAIMS

We claim:

1. An aquaculturally-raised aquatic animal comprising DHA at a level about 50% greater than that produced by standard aquaculture practices.
2. An Organic aquaculturally-raised aquatic animal comprising DHA at a level about 50% greater than that produced by standard aquaculture practices.
3. A 100% Organic aquaculturally-raised aquatic animal comprising DHA at a level about 50% greater than that produced by standard aquaculture practices.
4. An aquaculturally-raised aquatic animal comprising DHA at a level of at least about 12 g/kg.
5. An aquaculturally-raised aquatic animal comprising DHA at a level of about 12 g/kg to about 24 g/kg.
6. An aquaculturally-raised aquatic animal comprising DHA at a level of about 24 g/kg to about 40 g/kg.
7. An aquaculturally-raised aquatic animal comprising DHA at a level of about 12 g/kg to about 40 g/kg.
8. Any of claims 4-7, wherein the animal is an Organic aquaculturally-raised aquatic animal.
9. Any of claims 4-7, wherein the animal is a 100% Organic aquaculturally-raised aquatic animal.
10. Any of claims 1-3, wherein the animal is a shrimp and the DHA level is in excess of about 3 mg/g dry weight.
11. Any of claims 1-3, wherein the animal is a shrimp and the DHA level is in excess of about 5 mg/g dry weight.
12. Any of claims 1-3, wherein the animal is a shrimp and the DHA level is in excess of about 10 mg/g dry weight.
13. Any of claims 1-9, wherein the animal is a fish.
14. Claim 13, wherein the fish is a catfish and the DHA level is in excess of about 5% of the total extractable fat.
15. Claim 13, wherein the fish is a catfish and the DHA level is in excess of about 10% of the total extractable fat.

16. Claim 13, wherein the fish is a catfish and the DHA level is in excess of about 15% of the total extractable fat.
17. Claim 13, wherein the fish is a catfish and the DHA level is in excess of about 20% of the total extractable fat.
18. Any of claims 1-9 wherein the animal is a mollusk.
19. Claim 18, wherein the mollusk is an abalone and the DHA level is in excess of about 10% of the total extractable fat.
20. An aquaculturally-raised aquatic animal comprising lutein, zeaxanthin, and/or lycopene at a level about 50% greater than that produced by standard aquaculture practices.
21. An Organic aquaculturally-raised aquatic animal comprising lutein, zeaxanthin, and/or lycopene at a level about 50% greater than that produced by standard aquaculture practices.
22. A 100% Organic aquaculturally-raised aquatic animal comprising lutein, zeaxanthin, and/or lycopene at a level about 50% greater than that produced by standard aquaculture practices.
23. An aquaculturally-raised aquatic animal comprising lutein at a level of at least about 60 mg/kg.
24. An aquaculturally-raised aquatic animal comprising lutein at a level of about 60 mg/kg to about 200 mg/kg.
25. An aquaculturally-raised aquatic animal comprising lutein at a level of about 200 mg/kg to about 500 mg/kg.
26. An aquaculturally-raised aquatic animal comprising lutein at a level of about 60 mg/kg to about 500 mg/kg.
27. An aquaculturally-raised aquatic animal comprising zeaxanthin at a level of at least about 60 mg/kg.
28. An aquaculturally-raised aquatic animal comprising zeaxanthin at a level of about 60 mg/kg to about 200 mg/kg.
29. An aquaculturally-raised aquatic animal comprising zeaxanthin at a level of about 200 mg/kg to about 500 mg/kg.

30. An aquaculturally-raised aquatic animal comprising zeaxanthin at a level of about 60 mg/kg to about 500 mg/kg.
31. Any of claims 23-30, wherein the animal is an Organic aquaculturally-raised aquatic animal.
32. Any of claims 23-30, wherein the animal is a 100% Organic aquaculturally-raised aquatic animal.
33. Any of claims 20-32, wherein the astaxanthin content is less than about 50% of the total carotenoid content of the animal.
34. Any of claims 20-32 wherein the animal is a crustacean.
35. Any of claims 20-32 wherein the animal is a fish.
36. Any of claims 20-32 wherein the animal is a mollusk.
37. An aquaculturally-raised aquatic animal comprising taurine at a level about 50% greater than that produced by standard aquaculture practices.
38. An Organic aquaculturally-raised aquatic animal comprising taurine at a level about 50% greater than that produced by standard aquaculture practices.
39. A 100% Organic aquaculturally-raised aquatic animal comprising taurine at a level about 50% greater than that produced by standard aquaculture practices.
40. An aquaculturally-raised aquatic animal comprising taurine at a level of at least about 200 mg/kg.
41. An aquaculturally-raised aquatic animal comprising taurine at a level of about 200 mg/kg to about 1 g/kg.
42. An aquaculturally-raised aquatic animal comprising taurine at a level of about 1 g/kg to about 2 g/kg.
43. An aquaculturally-raised aquatic animal comprising taurine at a level of about 200 mg/kg to about 2 g/kg.
44. Any of claims 40-43, wherein the animal is an Organic aquaculturally-raised aquatic animal..
45. Any of claims 40-43, wherein the animal is a 100% Organic aquaculturally-raised aquatic animal.
46. Any of claims 37-45, wherein the animal is a crustacean.
47. Any of claims 37-45, wherein the animal is a fish.

48. Any of claims 37-45, wherein the animal is a mollusk.
49. An aquaculturally-raised aquatic animal that has been certified as Organic.
50. An aquaculturally-raised aquatic animal that has been certified as 100% Organic.
51. Either of claims 49 or 50, wherein the animal is a crustacean.
52. Either of claims 49 or 50, wherein the animal is a fish.
53. Either of claims 49 or 50, wherein the animal is a mollusk.
54. A feed for aquatic animals comprising DHA, lutein, lycopene, zeaxanthin, or taurine at levels that provide at least about a 50% enrichment of said component in an animal that has consumed the feed for 2 to 10 weeks.
55. A feed for aquatic animals comprising an amount of marigold petals sufficient to provide lutein at a level of at least about 60 mg/kg.
56. A feed for aquatic animals comprising an amount of marigold petals sufficient to provide lutein at a level of about 60 mg/kg to about 200 mg/kg.
57. A feed for aquatic animals comprising an amount of marigold petals sufficient to provide lutein at a level of about 200 mg/kg to about 500 mg/kg.
58. A feed for aquatic animals comprising an amount of marigold petals sufficient to provide lutein at a level of about 60 mg/kg to about 500 mg/kg.
59. A feed for aquatic animals comprising an amount of Lycium Chinese Mill Berries sufficient to provide zeaxanthin at a level of at least about 60 mg/kg.
60. A feed for aquatic animals comprising an amount of Lycium Chinese Mill Berries sufficient to provide zeaxanthin at a level of about 60 mg/kg to about 200 mg/kg.
61. A feed for aquatic animals comprising an amount of Lycium Chinese Mill Berries sufficient to provide zeaxanthin at a level of about 200 mg/kg to about 500 mg/kg.
62. A feed for aquatic animals comprising an amount of Lycium Chinese Mill Berries sufficient to provide zeaxanthin at a level of about 60 mg/kg to about 500 mg/kg.
63. An animal feed comprising at least about 2 g/kg taurine.

64. An animal feed comprising DHA at a level of about 12 g DHA/kg feed and lutein, lycopene or zeaxanthin at a level of at least about 60 mg/kg feed.
65. An animal feed comprising about 12 g/kg DHA and at least about 2 g/kg taurine.
66. An animal feed according to any of claims 54-65, wherein the feed comprises an antioxidant.
67. An animal feed according to claim 66, wherein the antioxidant is a natural antioxidant.
68. A method of producing an Organic aquatic animal by feeding the animal a diet comprising a microalgal DHA source as the sole source of DHA.
69. A method according to claim 68, wherein the microalgal DHA source is selected from *Crypthecodinium, Schizochytrium, Thraustochytrium, Pavlova, Tetraselmis,* and *Isochrysis,* and is provided at a level of at least about 12 g DHA/kg feed.
70. A method according to claim 68, wherein the microalgal DHA source is selected from *Crypthecodinium, Schizochytrium, Thraustochytrium, Pavlova, Tetraselmis,* and *Isochrysis,* and is provided at a level of about 12 g DHA/kg to about 24 g DHA/kg feed.
71. A method according to claim 68, wherein the microalgal DHA source is selected from *Crypthecodinium, Schizochytrium, Thraustochytrium, Pavlova, Tetraselmis,* and *Isochrysis,* and is provided at a level of about 24 g DHA/kg to about 40 g DHA/kg feed.
72. A method according to claim 68, wherein the microalgal DHA source is selected from *Crypthecodinium, Schizochytrium, Thraustochytrium, Pavlova, Tetraselmis,* and *Isochrysis,* and is provided at a level of about 12 g DHA/kg to about 40 g DHA/kg feed.
73. A method of producing an aquatic animal by providing the animal with a feed-enriched biomass sufficient to provide at least about 60 mg/kg lycopene or zeaxanthin.
74. A method according to claim 73, wherein said biomass comprises one or more of the following: microalgae or extracts thereof, marigold petals or extracts

thereof, tomato or extracts thereof, Lycium Chinese Mill Berries or extracts thereof, and Flavobacterium or extracts thereof.

75. A method of producing an aquatic animal enriched in taurine by providing the animal with a feed comprising at least about 2 g/kg taurine.
76. A method according to claim 75, wherein taurine can be provided as a pure chemical, an impure taurine extract containing at least about 10% taurine, or a microbial biomass containing at least about 5% taurine by weight.
77. A method for feeding animals, including humans, a feed comprising the products or byproducts of aquatic animals, wherein the aquatic animal product or byproduct is enriched in DHA, lutein, zeaxanthin, lycopene, or taurine to a level greater than about 50%, and the feed comprises the feed of claims 54-67.
78. The method of claim 77, wherein the aquatic animal is a fish.
79. The method of claim 77, wherein the aquatic animal is a crustacean.
80. The method of claim 77, wherein the aquatic animal is a mollusk.